NEWSLINE

Published weekly for employees of Lawrence Livermore National Laboratory *Friday, March 15, 2002* *Vol. 27, No. 11*

The Terascale Simulation Facility is a four-story, 253,000-square-foot facility that will house the Accelerated Strategic Computing Initiative's 60 teraflops Option Purple machines.

Contract signed for TSF construction

By Don Johnston
NEWSLINE STAFF WRITER

The contract for construction of the Terascale Simulation Facility was signed this week with M.A. Mortenson Company's Advanced Technology Group.

The $54.45 million contract covers construction of the 253,000-square-foot supercomputing facility that will house the next generation of Advanced Simulation and Computing Campaign (ASC) computers to serve Defense & Nuclear Technologies and the Stockpile Stewardship Program. Groundbreaking is scheduled for early April.

"Mortenson brings a lot of experience in advanced technology projects to the construction of the Terascale Simulation Facility (TSF)," said Roy Neyer, Laboratory project manager. "We're excited to work with Mortenson to build the facility of the future in supercomputing."

To be located immediately south of the Drainage Retention Basin, west of Bldg. 551 and northeast of Bldg. 451, the TSF consists of two 128-foot-by-192-foot two-level computer room facilities — over one acre of computer

See **FACILITY,** *page 8*

President's Council praises labs' outstanding grades, post-Sept. 11 service

In the ninth annual report of the UC President's Council on the National Laboratories, Bill Friend told the Regents Wednesday the University of California should be "proud of the service the laboratories render and the resource they are to the nation.

"I think none of us could have lived through the last six months without appreciating the importance of the laboratories' contributions and potential for future response to the world that we have found ourselves in since September 11," said Friend, who chairs the President's Council.

Friend praised Lawrence Livermore, Los Alamos and Lawrence Berkeley laboratories for continued excellence in science, technology and operations as reflected by outstanding grades in UC's annual performance appraisals. He then went on to outline the ways the council's five constituent panels are working with the laboratories to ensure those high marks continue.

The Laboratory Security Panel is a relatively new panel, but one of critical importance in recent times, Friend said. During the last year, the panel has focused on a number of issues, including building a relationship with senior DOE officials responsible for security and counterintelligence. The panel now advises the laboratories in meeting the challenges imposed by the changing threat in the post-9/11 environment.

"More than ever, it is important that the laboratories receive adequate resources and be allowed to apply those resources based upon greatest threat as determined through sound risk management evaluations," Friend said.

See **LABS,** *page 7*

Lab forms consortium with Alameda to consolidate dispatch services

NEWSLINE STAFF REPORT

Capping more than five years of study — including review by an independent consultant — Laboratory Fire Chief Randy Bradley announced this week that the Alameda County Fire Department, Alameda County Emergency Medical Services Agency, Alameda City Fire Department, and the Laboratory will form a consortium to consolidate emergency dispatch services.

"Consolidated dispatch will provide an improved and expanded level of fire and emergency medical services, as well as enhance the county mutual aid system," Bradley said. The center will be both modern and efficient, and focused exclusively on emergency fire and medical services. The consolidation should produce savings annually for all the parties to the agreement."

Bradley explained that these four agencies share similar missions within their jurisdictions.

"They provide fire protection, emergency-medical and other safety-related services within their respective boundaries. The fire departments also participate in the County Mutual Fire Assistance program."

The costs of maintaining and equipping the facility, staffing, insurance and improvements will be apportioned to reflect the individual use of each participant on a cost-per-call basis, based on the total budget of the dispatch center.

The dispatch facility at the Livermore Lab will serve as the

See **DISPATCH,** *page 7*

JULIE KORHUMMEL/NEWSLINE

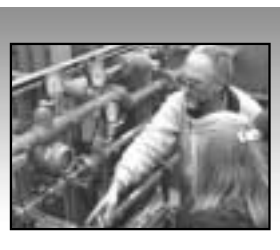
Consolidation will enable Lab dispatchers such as George Moorehead to provide an expanded level of emergency services.

1962: Dominic dominates

— Page 3

Go inside mind of a terrorist

— Page 5



Sharing solutions with EPA

— Page 7

LAB COMMUNITY NEWS

Weekly Calendar

Technical Meeting Calendar, page 4

Friday 15

Effective today, the **New Staff Orientation Session II** is moving to a new location in Bldg. 361. Session II, which includes "New Employee Environmental Orientation" (EP0003) and "New Staff Safety Orientation" (HS0001) is held on the first and third Fridays of each month from 8 a.m. to noon in the Bldg. 361 auditorium. All LLNL, supplemental labor and contract employees are required to attend. Registration is now required by calling Cindy Stugelmeyer at 2-0587 or by contacting your department training coordinator.

Monday 18

Employees are invited to attend a presentation by **David H. Russ, the treasurer and vice president for Investments of the UC Regents**, from noon to 1 p.m. in the Bldg. 123 auditorium. Russ will share his views on the economy and the stock market. He will also discuss the importance of investing for retirement and what makes the UC Retirement Plan one of the most financially sound retirement systems in the world. Seating is available on a first-come, first-served basis.

Tuesday 19

In honor of **Women's History Month,** three new managers — Dona Crawford, Merna Hurd and Laura Gilliom — will offer their views in a panel discussion at noon in the Bldg. 543 auditorium. This session will give the LLNL community an opportunity to meet these proven managers and hear their perspectives and their vision for shaping the Laboratory's future. Contact: Marina Gonzalez, 3-7904.

Wednesday 20

A networking meeting on **"Women and Heart Disease"** is scheduled for noon in Trailer 2679, room 1222. Sponsored by the LLLWA's Health Transitions for Women Committee, the meeting will feature a video followed by an open discussion. Space is limited and seats will be available first come, first served. Bring lunch and bring a friend. Contact: Marnette Yeager, 2-1217.

Up & Coming

The March 26 meeting of the **LLNL Travel Slide Group** will feature Gil Cruz offering a presentation on "Sojourning through New Zealand." The group meets on the fourth Tuesday of the month at 2 p.m. at the Livermore Library meeting room.

• • •

To start off the baseball season, LLESA is offering tickets for $1 each (regularly $16) to see the **Oakland A's play the New York Yankees** on Wednesday April 24, at 7:05p.m. Tickets are for sections 204/205 and seating is limited. Tickets are available in the LLESA office Bldg. 415 room 142 on a first-come first- served basis. LLESA is open Monday-Friday 10 a.m.-4:30 p.m.

Talk takes swing at physics of baseball

Just in time for baseball season, Livermore Lab physicist John White will share the science of the perfect swing during his talk "The Physics of Baseball" at 7:30 p.m. on Thursday, March 21, at the Tracy Community Center, 300 East 10th Street, Tracy.

His talk, which is the final presentationin the Lab's Science 2002 Lecture Series, combines simple physics concepts with demonstrations using popular toys. The basic principles he will describe can improve any ballplayer's swing, as well as their understanding of science.

John White

Mastery of batting mechanics has already affected scoring levels for both professional and amateur players, as will be shown in examples from Major League, collegiate and youth levels. White has managed and coached a variety of youth sports teams, including baseball, and is the author of "Batting Basics: Science of the Perfect Swing."

The lecture is free and suitable for anyone interested in science. Seating is available on a first-come basis.

For more information or directions, go to www.llnl.gov/llnl/06news/ community/lecture.html.

Guides needed for Lab's community tours

Do you know someone interested in part-time or occasional work? Do they like people and public speaking? If so, they might be an ideal tour guide candidate.

In conjunction with the 50th anniversary, Public Affairs is revamping the public tour program. New tours of the Lab will be offered to the general public, school children and community organizations beginning May 1. The new two-hour tour will take participants around the Lab for general stops at ASCI, NARAC, Biology and other locales.

Tour guides will be hired through Johnson Controls and paid on a per-tour basis.

"This is a great part-time opportunity for college students, moms, retirees and others who might want occasional work," said Linda Lucchetti, tour coordinator. "We are very excited about our new tour program and we think the public will enjoy it as well."

Tour guides will be trained extensively as part of the hiring process. Plus, on-going program updates and skill acquisition will be offered.

To apply for a position contact Traci Lemire at (925) 960-0369, extension 365, or email your resume to lemire1@llnl.gov. You can also drop off your resume at the Johnson Controls office in Trailer 4180.

IN MEMORIAM

Eulogio Garcia

Services have been held for Eulogio Garcia, a retired electrician, who died Jan. 10. He was 84.

Garcia was born and raised in Cheyenne, Wyo. He served in the Army during World War II and fought in Europe.

He came to California in 1947 and worked at the Alameda Naval Air Station for 25 years. He joined the Lab in 1972 and worked in Plant Engineering before retiring in 1984.

Garcia was an avid gardener and enjoyed working in his yards.

Survivors include his wife Ruby, daughter Loretta and grandchild Rena.

Lavern Reynolds

Lavern H. Reynolds, a retired research technician, died Feb. 8 in Coos Bay, Ore. He was 86.

"Vern" was born in 1916 in Western Grove, Ark. Reynolds worked on public road projects in the southern states before enlisting in the Navy in 1937.

He served in the Navy from 1937 to 1941 and was stationed at Pearl Harbor when it was attacked. He spent the next 16 years working at the Alameda Naval Air Station as a heat-treating specialist.

Reynolds retired from the Laboratory in 1971 after a career in Mechanical Engineering. He was very proud of his tenure at the Lab, working on several classified programs in the Cold War years.

He enjoyed reading about history, geography, business and politics. He spent most of his retirement years in the Coos Bay, where he enjoyed hiking, fishing and exploring the wonderful local library.

He is survived by sons Gerald and John and three grandchildren. His middle son, James, died in Hawaii in 1991.

March up to join the parade

In celebration of its 50th anniversary, the Lab is joining the parade — make that four of them to be exact.

The Lab's float, celebrating 50 years of science education, will debut at the

Dublin St. Patrick's Day Parade, March 16

Accompanying the float will be the scientist drill team, a collection of volunteer employees dressed in Lab coats and drilling to selected music.

For more information on parade activities, contact Christine Mixan, 2-3138.

Newsline

Newsline **is published weekly by the Internal Communications Department, Public Affairs Office, Lawrence Livermore National Laboratory (LLNL), for Laboratory employees and retirees.**

Contacts:

Managing editor: Lynda Seaver, 3-3103

Contributing writers: Sheri Byrd, 2-2379; Don Johnston, 3-4902; Elizabeth Rajs, 4-5806; David Schwoegler, 2-6900; Anne Stark, 2-9799; Steve Wampler, 3-3107; Gordon Yano, 3-3117. For an extended list of Lab beats and contacts, see http://www.llnl.gov/llnl/06news/NewsMedia/contact.html

Designer: Julie Korhummel, 2-9709

Public Affairs Office: L-797 (Trailer 6527), LLNL, P.O. Box 808, Livermore, CA 94551-0808
Telephone: (925) 422-4599; Fax: (925) 422-9291
e-mail: newsline@llnl.gov or newsonline@llnl.gov
Web site: http://www.llnl.gov/PAO/

Printed on recycled paper

1952 – 2002
MAKING HISTORY, MAKING A DIFFERENCE

The largest U.S. nuclear testing operation ever conducted

This is an ongoing feature highlighting the Lab's 50-year history. This week we take a look at the year 1962.

In 1962, President Kennedy decided that the nation must resume atmospheric nuclear testing and approved Operation Dominic, the largest U.S. nuclear testing operation ever conducted. On August 30, 1961, Premier Khrushchev had announced that the Soviet Union would break the three-year moratorium, and the Soviets resumed nuclear testing two days later. The 1962 test series included 36 atmospheric tests at the Pacific Proving Grounds, and about 500 of the Laboratory's 4,200 employees were among the 28,000 military and civilian personnel that participated.

Operation Dominic included dramatic proof tests of weapon systems introduced into the stockpile during the moratorium. For FRIGATE BIRD, the U.S.S. Ethan Allen launched a Polaris missile, and the Livermore-designed warhead successfully detonated over the open ocean. Other tests laid the groundwork for future Livermore designs of the Minuteman and Poseidon warheads. High-altitude nuclear tests also were carried out to gather weapons effects data for the Department of Defense. The Limited Test Ban Treaty was signed in Moscow the next year, making Operation Dominic the last series of atmospheric nuclear weapon tests ever conducted by the U.S.

Operation 1962 Dominic

For Livermore's YUKON test in Operation Dominic, the device was air-dropped from a B-52 bomber near Christmas Island. The yield of the weapons-related experiment was in the range of 100 kilotons.

Around the world
- McNamara announces policy of flexible response
- Test moratorium ends
- Cuban missile crisis
- Telstar satellite launched

Around the nation
- First American in orbit
- Massive U.S. testing resumes
- U.S. deploys first Minuteman ICBMs
- The U.S. space program is on the rise; John Glenn becomes the first American to orbit the Earth

Around the Lab
- John Foster is Lab's director
- Number of employees sharply increases in early 1960s
- Major Lab work includes nuclear weapons research, development, and testing; magnetic fusion; inertial fusion; and peaceful nuclear explosives testing. The Biomedical and Plowshare Programs were both established.
- In addition to the Minuteman warhead, the Lab also developed the W48 warhead for the 155-millimeter howitzer. Both entered the U.S. weapons stockpile in 1962–63.

in other NEWS

Significant events around the world, the nation and at the Lab.

See the Timeline: http://www.llnl.gov/timeline/ **See anniversary stories: http://www-r.llnl.gov/50th_anniversary/history.htm**

Save this date!

50th Anniversary Celebration

&

Family Days

SEPTEMBER 21, 22

Last chance! Sound off on 'Lab speak'

This is the last day to submit 'Labspeak' phrases that you'll only find within the confines of the gates. They can be phrases that are funny, odd, or simply make sense to no one — and yet you find yourself using them every day. This list will be compiled in celebration of the Lab's 50th anniversary.

Your name (optional): _____ **Your ext.** _____

"Lab speak" nomination: _____

_____

_____

Comments (optional):

_____

_____

Return form to:
Newsline
Attn: Lynda Seaver, L-797

Lawrence Livermore National Laboratory
Making History Making a Difference
1952-2002

NEWS YOU CAN USE

Superior Court jury rules on misconduct lawsuit

An Alameda County Superior Court jury on Monday awarded $1 million to a former Laboratory employee who was terminated for misconduct. "We certainly appreciate the time and effort that the jury gave to this very difficult case," Lab Counsel said. "The split decision and seven days of jury deliberations are acknowledgements to the varied opinions that continue to exist on the accusations."

Prior to her termination, it was determined that the plaintiff, Dee Kotla, had used Laboratory equipment for outside business, a violation of Lab policy. Additionally, during the investigation into her outside business activities, Kotla admitted that she deleted computer files pertaining to the outside business from the server. She was dismissed from the Lab in April 1997. Kotla claimed in her lawsuit that her dismissal was in retaliation for her support of a co-worker in a separate sexual harassment lawsuit.

The trial lasted six weeks. The verdict rendered awards $325,000 in economic losses and $675,000 in emotional distress damages. The Lab has not decided whether it will appeal.

Technical Meeting Calendar

Friday 15

ENERGY & ENVIRONMENT
"Improving Seismic Event Locations Using Three-Dimensional, a priori Velocity Models: How Good is an Educated Guess?" by Megan Flanagan, LLNL.10:30 a.m., Bldg. 543 auditorium. Contact: Camille Vandermeer, 3-2672.

INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS
"Determining the Cosmic Distance Scale with Galaxy Clusters" by Erik Reese, U.C. Berkeley. Noon, Bldg. 319, room 205 (badge required). Contacts: Brad Holde, 2-7195, or Josie Morgado, 4-5201.

Monday 18

MATERIALS SCIENCE & TECHNOLOGY
"Advances in Trace Metal Contaminant Analysis by Laser-SNMS," by Kuang Wu, Candescent Technologies Corp. 10 a.m., Bldg. 235, gold room (uncleared area). Contacts: Art Nelson, 2-6488, or Roberta Marino, 3-7865.

V DIVISION
"Census and Evolution of High-Mass 'Clusters' at High Redshifts," by Leonidas Moustakas, University of Oxford. Noon, Bldg. 319, room 205 (badge required). Contacts: Wil van Breugel, 2-7195, Josie Morgado, 4-5201.

INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH
"Scalable On-line Automated Performance Diagnosis," by Philip Roth, University of Wisconsin, Madison. 10 a.m., Bldg. 451, room 1025 (uncleared area). Contacts: Jeff Vetter, 4-6284, or Leslie Bills 3-8927.

Tuesday 19

V DIVISION
"Adaptive Methods for High Resolution Cosmological Simulations. Answering Specific Cosmological Questions with Particle Simulations," by Jens Villumsen. Noon, Bldg. 319, room 205 (badge required). Contacts: Dave Dearborn, 2-7219, or Josie Morgado, 4-5201.

ENGINEERING CENTER FOR NONDESTRUCTIVE CHARACTERIZATION
"High-Accuracy Characterization of HEDP Targets," by Walter Nederbragt, LLNL. 1 p.m., Bldg. 235, room 1090 (uncleared area). Contact: Sherene Goulart, smgoulart@llnl.gov, for a copy of the abstract.

PHYSICS & ADVANCED TECHNOLOGIES
"Contemplating A New Signature for Nuclear Shell Closures," by Jutta Escher, TRIUMF, Vancouver, Canada, 10:30 a.m., Bldg. 211, room 227 (badge required). Contacts: Erich Ormand, 2-8194, or Pat Smith 2-0920.

PHYSICS & ADVANCED TECHNOLOGIES
"The LLNL Solid-State Heat Capacity Laser: Next Generation Directed Energy Weapon for Army Tactical Engagements," by Brent Dane. 2 p.m. Bldg. 123, Conference Room A. Contacts: Ralph Jacobs, 4-4545, Stefanie Landes, 2-3201.

Wednesday 20

INTEGRATED COMPUTING & COMMUNICATIONS
"Overview of Mathematica Features and Capabilities." 9 a.m., Bldg. 361 auditorium. Also, later that day: "Advanced Workshop on Numerical Computations in Mathematica," by Rob Knapp. 1:30 p.m. Bldg. 361 auditorium (uncleared area). Refreshments will be provided. Register for either session or submit questions for the second session at this address: http://www.wolfram.com/services/seminars/llnl2002/register.cgi. Contact: Candace Gittins, gittins1@llnl.gov, 4-4952

Thursday 21

DEFENSE & NUCLEAR TECHNOLOGIES
"A Novel Experiment for Turbulent Mixing by Rayleigh-Taylor," by Malcolm Andrews, Texas A&M University. 10 a.m., Bldg. 111, Room 114 (cleared area) Contacts: Tom Peyser, 3-6454, or Carrol Holck, 2-8605.

Friday 22

INSTITUTE FOR GEOPHYSICS & PLANETARY PHYSICS
"SIRTF SINGS: The SIRTF Nearby Galaxies Survey," by Rob Kennicutt, University of Arizona. Noon, Bldg. 319, room 205 (badge required). Contacts: Adam Stanford, 3-6013, or Josie Morgado, 4-5201.

Monday 25

MATERIALS SCIENCE & TECHNOLOGY
"Predicting the Elastic Limit and Incipient Plasticity Mechanisms in Crystals," by Krystyn Van Vliet, Massachusetts Institute of Technology 10 a.m., Bldg. 235, gold room (uncleared area). Contacts: Brian Wirth, 4-9822, or Roberta Marino, 3-7865.

The deadline for the next Technical Meeting Calendar is noon, Wednesday.

Send your input to tmc-submit@llnl.gov. For information on electronic mail or the newsgroup llnl.meeting, contact the registrar at registrar@llnl.gov.

NEWS OF NOTE

Lab work assists Glendale police in Efren Saldivar case

A Southern California respiratory therapist pleaded guilty Tuesday to six murder counts and other charges in a case in which Laboratory scientists assisted Glendale police investigators.

In 1998, Efren Saldivar confessed to Glendale police that he had killed dozens of hospital patients with injections of paralyzing drugs. However, Saldivar quickly recanted his confession.

A police task force was set up and eventually 20 bodies, of some of the most unusual deaths, were exhumed as a part of the investigation with assistance from Livermore forensic researchers.

In January 2001, Saldivar was charged with using the muscle relaxer Pavulon to kill six older patients at Glendale Adventist Medical Center in 1996 and 1997, and with putting the drug into another patient who survived. He pleaded guilty this week in a plea bargain that avoids the death penalty but sentences him to life in prison without parole.

"This is an excellent example of where Livermore's advanced technologies and expertise were used to assist law enforcement and the community," said former Lab Forensic Science Center Director Brian Andresen.

Andresen, who led the Livermore effort and was assisted by analytical chemist Armando Alcaraz, said that with previously existing techniques it wasn't possible to identify Pavulon in exhumed bodies.

"We were able to develop new analysis techniques to detect ultratrace levels of this drug in bodies that had been deceased for three to four years," Andresen said. "These new techniques can be applied by other researchers to other toxicology cases and criminal investigations."

'Three New Views' highlights celebration of Women's History Month

The LLNL Women's Association has planned several activities during March to celebrate Women's History Month, beginning with a panel discussion on Tuesday featuring three new women managers.

The panel, "Three New Views," will feature Dona Crawford, AD for Computation; Merna Hurd, associate deputy director for Operations; and Laura Gilliom, director of University Relations Program. This session will give the Lab community an opportunity to meet these proven managers and hear their perspectives and their visions for shaping the Laboratory's future. The panel will begin at noon in the Bldg. 543 auditorium.

The theme of this year's history month celebration is "Women Sustaining the American Spirit." In addition to the panel discussion, the activities will include the "Framing the Model Workplace" Forum at Sandia, and a reception on Thursday, March 28, celebrating the Women's Association's 31-year history.

The "Framing the Model Workplace" workshop will be held March 26 in New Mexico, but will be broadcast to Sandia Livermore via video-link. For more information, contact Dorothy Bishop at bishop2@llnl.gov or call 2-2267.

For more information about the panel, contact Marina Gonzalez at gonzalez8@llnl.gov or call 3-7904. For information about the reception or Visitors Center display, contact Linda Lucchetti at lucchetti1@llnl.gov or 2-5815.

Students to show off science, engineering know-how at annual fair

Nearly 300 Tri Valley students in grades 7-12 are expected to compete next week at the Tri Valley Science & Engineering Fair, and a few more judges are still needed to help evaluate the projects on Thursday.

Any scientists or engineers interested in volunteering should contact Dee Johnson at 2-1495 or fair director Karen Kiernan at 3-9051.

The science fair, now in its sixth year, will be held March 21-24 at the Blackhawk Museum. For the first time, this year's fair will feature "Science Fair Saturday" from 1-4 p.m., showcasing family science fun. There will be a number of special exhibits and demonstrations, including the Lab's Fun with Science program and energy bicycle, NASA/Ames' "Rock-It Science," Lindsay Wildlife Museum's "Reptile and Bird" program, and the Chabot Science Center's "Chabot-to-Go Sampler."

In celebration of the Lab's 50th anniversary, there will also be a display featuring 12 posters on the Laboratory's major research thrusts, including past and present photos.

No admission fees will be charged by the museum Friday, March 22, through Sunday, March 24, for organizing sponsors, corporate sponsors, and faculty, students and parents from participating Tri-Valley Schools. The Laboratory is one of the fair's organizing sponsors.

Teachers from 20 Tri-Valley schools were directly involved helping the students develop the science and engineering projects for presentation. Because of space limitations, fair organizers had to turn away 80 projects this year, said fair director Karen Kiernan.

"The quality of this year's projects is really terrific," Kiernan said. "This year, we're very excited to offer a number of special awards from technical organizations in addition to numerous general cash awards. And for the first time, thanks to ChevronTexaco, we have $5,000 to award in scholarships."

The Tri-Valley Science & Engineering Fair is an affiliate of the Intel International Science and Engineering Fair and this year's senior sweepstakes winners will go on to compete in the international fair to be held in Louisville, Ky., in May.

The exhibition of student projects may be seen by the public at the museum on Friday, March 22 and Saturday, March 23 from 10 a.m.-5 p.m. and on Sunday, March 24, from 10 a.m.-3 p.m.

The Blackhawk Museum is located at the east end of Blackhawk Plaza which is 4.2 miles east of I-680 on Crow Canyon Road at Camino Tassajara.

CLASSIFIED ADS

See complete classified ad listings at https://www-ais.llnl.gov/newsline/ads/

AUTOMOBILES

1998 - Ford Contour SE, 57k, great condition, Silver, Automatic, AC, ABS, dual airbags, power windows/locks, $7750, day 510-440-7581, home 510-790-9405

1994 - Camaro, white,V-6, 5-speed, Bose AM/FM cassette stereo, new tires, custom rims, cruise, very clean & reliable, $4,700 OBO. 925-964-0534

1995 - Dodge Neon, Lapis Blue, PS, PB, CD player, Alarm system, tinted windows, new tires, Great first car. $3000.00 OBO 209-551-4309

1996 - Mazda Minivan, Great shape. seats 8, PW,PB,AM/FM cass,cruise. Clean! Must sell. 93k freeway miles, asking 7900.00. Please call 209-983-8372

1940 - La Salles (three), 1986 JagXJ6 (two), 1970 Rover, project cars with potential. 1978 MGB, needs some work, $2500. All must go, call for details! 510-579-2330

1998 - Volvo S90,4D,85K,Blk,Auto, Leather, sunroof, Premium Sound/CD, Fully Loaded, Excellent condition. 3Y/36K Warranty, $16,500,3-2127, 925-606-4332

1996 - Ford Thunderbird LX, V-8, auto, curise, tilt, all power options, red with grey int, only 37 K miles, 8500.00 OBO 925-634-8523

1993 - Mercury Marqui, 56,000 miles, fully-loaded, great condition, belonged to grandpa. $6,000. Evenings after 6. 925-449-1524

1991 - Ford Bronco, Eddie Bauer. Excellent condition, 86k miles. $6,000 obo 925-516-3768

1994 - Chrysler LHS - 105k miles AC/All PWR, leather interior, moon roof, CD player, great condition 925-447-4492

AUTOMOBILE ACCESSORIES

Gear Vendors Overdrive Unit. Brand New GV-3DO375. Fits Long Shaft TH 400. Can be adapted to other applications. $1550 925-932-3794

Aftermarket third seat for Ford Explorer or Mercury Mountaineer. Great for families with young children. $200 415-928-4469

4 wheels and tires from a 2001 Chevy Z71. Only 15,000 miles on tires, excellent condition. $400 925-634-5061

Weiand Xcellerator manifold for oval port big block chevy and 650 Holley double pumper carburetor. $200. 925-245-4570

Toyota 4X4 Alloy Wheels w/Goodyear Wrangler GSA Tires. 15X7 wheel, 30X9.50 tires w/only 10,0000 miles on them. Lugnuts and caps included. $250.00 925-449-8009

BICYCLES

Trek 750 multi-track. Mens 21-inch frame. Like new - excellent condition. Asking $150. 925-600-0082

Custom made full suspension moutain bike PROFLEX ATTACK20 inch aluminum frame, STX gears, Rock Shock fork. $500.00 OBO 209-847-6534

Diamondback, Photon, BMX-style bicycle, 20 inch wheels, good condition, $100, 209-835-8791

BOATS

1976 Glastron, 20ft, cutty cabin w/delta canopy, CB, fish finder & ship-to-shore. Rebuilt eng, new tires on trailer. $7500 or BO. 209-537-2961

ELECTRONIC EQUIPMENT

Turbotax 2001 Premium and Turbotax 2001 for CA Original CDROMS. PC versions, both for $27.50 925-292-7799

Philips single loader CD player component. Great condition. Bought a DVD player and do not need anymore. $40.00 925-456-5345

Computer Monitor, Daewoo 19 Inch Low Radiation. New, Never Used. $175. 925-998-5935

Fluke 87 III multimeter. Nearly new with many extras. $300.00 or best offer. Leave msg at 925-989-6299

Work Benches w/Risers $75ea;work bench chairs w/castors $20ea;Surface Dial indicator 0.1 Micron Resolution $75;Vacuum Pump w/Bell Jar $75. 925-449-2008

Neon light transformer 7500 volt made by Jefferson Electric. $20 925-245-4570

Mini Bug Detector. Detects listening devices from 5MHz to 2GHz. $100 PG# 05024 Pete 209-869-1191

GIVEAWAY

Large approximately 4 foot diameter decorative Lava rock. 925-447-4797

TV, 21inches screen and an Exercise Bicycle. Both in working condition. 925-935-5004

Broan Trash Compactor, hardly used. Remodeled kitchen and no longer needed. Free 925-462-8811

Wrought Iron railing with wood hand rails. 18 FT. of straight rail, 8 FT. of angled rail for stairs. Can bring to Lab. Tom 925-833-6076

HOUSEHOLD

Coffee table and end table. Colonial style, Cherry finish. Great condition. $30 for both. Digital pictures available upon request. 925-803-9928

Ferarri bed made by Tyco, bright red, cost $800, sell for $300 obo. 650-364-5951

Dining room Table, Solid Oak, one leaf, four chairs, some minor heat marks. $250 OBO. 925-447-4797

Stain glass window- 2 panels in yellow, green and red pattern 35.5 in x 22.5 in. $40 or best offer. 925-462-8811

Walnut table with burl inlay. Round, 44in diameter, w/4 leaves. $825.00/obo. 925-443-1539

Corian countertop Matterhorn finish fits 24.5inx54.5in base 3.5in bullnose edge $350 209-544-9337

1 yr old apartment size gas stove/oven. Exc. condition, includes 6ft SS gas line. $150 BO. 925-699-9035

Sofa/sleeper (twin size), large green and being plaid, exclnt cond. $300/BO. 925-447-5144

Lady Kenmore dryer, works great, just tuned up! Almond color, $95.00 925-938-6789

Simmons Cherrywood finish crib. Nice condition. $100 415-928-4469

Computer Table$50;Upholestered Desk Chairs w/wheels$20ea; Steel 2 Shelf Bookcase approx 48in long $20. 925-449-2008

Daybed with trundle, mattress, comforter set. $200.00 Girls bedroom set white french provencal headboard dresser, mirror, Desk, night stand 449-9212 925-447-5208

Samsung Quiet Jet Vacuum cleaner,model 9048R Canister,New in-box.Top rated in C-Reports. $200. 209-477-4968

Childrens easel w/ whiteboard & blackboard, like new, $45. Blacker & decker undermount toaster oven, $25. 925-294-9022

LOST & FOUND

Lost: the beautiful braclet with the silver shape cross on each and along with light purple stones.Given by my husband. 209-824-1362

MISCELLANEOUS

ROTOTILLER, Troy-bilt, Rear tines, very good condition, runs well, about 4 hp, $255 /obo. 925-447-6672

Beautiful Aqua suede jacket with Southwestern design. Hardly wore it. Large medium size. Paid 300.00. Asking 135.00. 510-537-7222

Yard cart durable wheel barrow. Large capacity holds potting soil, clippings, etc. Perfect for weekend warrior. $25 925-513-2784

PC laptop $500, Futon-southwestern design, upgraded pad & cover $100, CardioGlide plus $75, Stair-Stepper $75, White washed oak coffee table $30. 209-480-5405

GHS Reunion Classes 1971-1975 Saturday July 20,2002 Shrine Events Center Livermore 925-447-5708

Black & Decker electric edge trimmer. Not used much. $ 20 or best offer. 925-462-8811

Sears heavyduty sander ($60), scroll saw ($60), electricians prof AC multmeter ($75) or offers 925-292-7799

Portable generator 5KW Generac, 110 & 220v. Tecumseh 10hp engine with 5 Gal capacity. Used less than 30 min. $300.00. 209-858-4422

Microwave and stand. Kenmore, 2-shelfed, programmable meals. Exclnt cond. Used only by sr citizen. $250/BO. 925-447-6144

RADIAL ARM SAW - Craftsman, very good condition. With carbide blade and dado blade. $350. 925-455-6884

Husband's baseball memorabilia, including autographs. Includes cards, figures, balls, plates, photos etc. $1,900 or best offer. Can email pictures. 209-825-2048

Society Garlic 1 gal $2 ea, 4 inch pots and 16 oz cups $1.50 ea. 925-447-6192

Plans for Grumman F3F-1 pedal plane plus appx $90 worth of parts (pedal crank, LG & brgs, cowl ring, rocker arm covers, wheels). Sell for $30.00 925-449-2230

Cardio-glide, good condition $50 209-869-3056

3X2Optics Breadboard $100;SILK SCREENS & ACCESSORIES $200; 19in Racks w/Shelves & Drawers $50ea;Gas Chromatograph $150; Photo Spectrophotometer$100. 925-449-2008

Beautiful abalone shells, lots of them all sizes two dollars each. 925-447-6942

Computer desk and rolling printer stand, Hunter green and light oak, great shape. $150.00 925-447-4797

Chipper-shredder, Sears 8hp-gas eng. on two wheeled cart, runs great, low use, manual incld. $300 please call after 6pm 209-832-2056

MOTORCYCLES

Go-Kart, Briggs 5 H.P. excellent condition. $350.00 209-835-7126

1990 - CR500 Honda, FMF Fatty pipe, new brakes, good tires, new seat cover, bars with hand guards, new chain and sprockets $2,100 925-484-4099

MUSIC INSTRUMENTS

Ensonic SQ80 midi synthesizer, cost $1800, sell for $500 obo. 650-364-5951

Suzuki violin, 1/4 size, Wolf violin headrest (1/2 size), Violin Strings, all like new. Make offer 925-292-7799

Synthesizer midi modules Roland MT-32, Yamaha FB-01 $75 Each. 209-952-5045

PETS & SUPPLIES

Giveaway: 2 boxers, male fawn neutered, female brindle unspayed papered. Need love, please take both. 209-521-5062

100 gal fresh/salt water fish tank with 28 in tall wooden stand. Overall dimensions with stand 62 X 21 X 53 in. All accessories included. $700/OBO 925-932-1360

Cockatiel, hand-tamed, three years old. Great personality, loves people and attention. $40 209-835-8976

AquaClear aquarium filter ideal for 30-50 gallon tanks. $10. 925-245-4570

Parakeet, small teal male with cage $20.00. 925-706-2088

BABY COCKATIELS HAND TAME $50.00 209-669-7588

Dwarf Netherland Rabbit black, Doe. Very small rabbit, not yet full grown. Comes with all kinds of extras...except cage. 209-521-5062

English Springer Spaniels. 6 males, 6 females 4 weeks old. $450 ea. AKC and first shots. All are liver and white. Call home # only. 209-836-3749

RECREATION EQUIPMENT

Oval 12X24 above ground pool. Four years old, very good condition, but needs a new liner (approx $250). Payed $1500 asking $350 209-892-5734

Lange kids ski boots size 19.5 Euro cost $130, sell $30 obo. Northwave snowboard boots, like new cost $80, sell $25. 650-364-5951

Golf Clubs Womens Spalding ProImpact with Taylor bag & pull cart. New condition. $100 925-513-2784

Nordic Track Skier. Good condition, about 5 yrs. old. $60.00. 925-456-5345

Golf Clubs, 2 sets, Axion (Callaway knock off) 3-sw, graphite, reg,$140, Powerbuilt 3-pw (-6 iron) $100,$220both 925-828-6597

RIDESHARING

Express your commute, call 2-RIDE for more information or visit http://www-r.llnl.gov/tsmp.

Danville - Camino Tassajara & Crew canyon (near Blackhawk)- 2 drivers/riders seeking additional members to carpool from south Danville area. 8:00 - 4:45 925-736-9441, ext. 2-1039

Manteca - Rider/Driver for Carpool. Drive 1 day wk & 1 day mo. Relax the rest. 7:45-4:30. 209-823-5085, ext. 2-0643

Modesto - Vanpool, Modesto to LLNL, 7:00 to 3:30 shift, has one opening. Call 209-529-1010, ext. 3-0487

Orinda - Lafayette-Moraga carpool seeks 4th rider/driver. Lab hours 8:15am-5pm. Meets near Highway 24 and St. Stephens exit. 925-253-0498, ext. 2-9823

Modesto - 14 psgr. Captain chairs, reading lights. 7:45 - 4:30; $110/mo. Help drive and reduce rate further. 209-521-9047, ext. 2-5177

Ceres/Modesto - 14 psgr Enterprise deluxe van, 7:00-3:30, $110/month 209-537-0229, ext. 3-6631

Modesto - Looking for car pool partners and share driving.Hours flexible. 209-522-7136, ext. 3-3575

SERVICES

Loving in home day care has two openings. Licensed for over 15 years. References available. Warm family environment!! 925-455-9076

House Painting - Exterior & Interior. Over 16 yrs exp. Call for free estimate. 209-956-3718

FLOORING - Wood laminates, carpet, linoleum. Reliable, reasonable rates. Licensed/bonded/insured, 27 yrs in business. Free estimates 925-516-9510

Voice Lessons. Personalized supportive instruction. Healthy technique. Free introductory lesson. Shannon. 925-828-5480

SHARED HOUSING

Livermore - Room for rent in 3 bd/2ba house 3 miles from LLNL. Non-smokers only. $500 per month plus deposit. 925-371-0951

TRUCKS & TRAILERS

Miley 2 horse trailer, new tires, new floor, new Custom divider. Not very pretty but pulls great behind vehicle. $950.00 925-381-2359

1988 - Chevy Jamboree. 350 engine, fully self contained, 48K miles, runs well, all appliances work, generator. $7,000. 925-456-3423

1962 - Ford Tow Truck. New engine, everything works, $2000. 510-579-2330

1986 - Ford E-150 Van Conversion, 300 C/I six cylinder engine, Auto Trans. Good condition $1,800. 925-778-6878

1988 - Nomad 29 foot fith wheel. Microwave, AC, AM-FM, cable ready. $5,000. 925-828-3044

1992 - Airex 27 foot CLASS C,36K miles, Excellent condition,fully self-contained, AC/GEN/TV/Fullsize Refrigerator. Lots@storage. $19K. Call/inspect. 925-846-9562

1998 - Infinity QX4 4X4, 39Kmi., Excellent Cond. clean, Black w/Tan leather, sun-roof, Bose stereo w/6CD changer, loaded, power everything, $21.5K obo 925-449-3855

1999 - Blue Chvy Silverado LS Ext Cab, 305 V8, Flwmstr dl exhst, Cstm pro streo Pwr evrythng Gry clth insd Bd lnr 62k commuter miles. Great Truck $17,500. 209-544-2451

1997 - Dodge Ram SLT 2500 2WD V-10, Club Cab, Long Bed,110Kmi, one owner excellent cond. $10,000/offer. 209-962-7431

1999 - Chevy Silverado 1500LS Ext. Cab. 5.3ltr V8, AT, pwr win/locks, AC, CD, ABS, alloy wheels. 17k Miles! KBB:$20,545, asking:$19,000/Best Offer. 925-461-5093

1984 - GMC 1TON Van G3500, 350ci, needs TLC. $2750.00 pgr #05024 Pete 209-869-1191

1988 - GMC Jimmy 4x4, 123K mi, exc cond, new trans & exhaust, tow pkg, p/s, p/b, ac. Must see to appreciate, $7500 OBO 925-447-6784

VACATION RENTALS

Eagle Lake - Cabin (Eagleswings), 2 bed, 2 bath, full kitchen. Great family set up. Make plans for your summer. Taking reservations now. Call at 530-825-2131 925-447-3780

SOUTH LAKE TAHOE - 3 Bedroom 2 bath Chalet, newly remodeled, nicely furnished,all amenities,close to all skiing, Reserve Now! 209-599-4644

Pine Crest. - Cabin near Dodge Ridge. 3 bdrm/2 bath, fireplace w/wood, microwave, pool table, cleared level parking, available spring vacation, $195/wknd. 925-449-5513

Maui - right by the ocean!1 bdrm suite w/ full kitchen for one week; up to 4 people. Scenic view - beautiful! LLNL discount. 209-832-2790

Maui - Condo, RCI Gold Crown, large 1 bed room, 2 bath, sleeps 4, avail. May 9-16 or trade for other times. 925-447-0856

Kailua-Kona, Hawaii - 2BR/2Bath condo on Alii Drive. Ocean view, 2 pools, exercise room and warm weather. Call for Lab rates. 925-833-6061

WANTED

Wanted: Recumbant excerise bike for disabled person. 510-537-7222

Wanted: Someone to do yardwork, mowing weeding etc. weekly/biweekly. Lenore Ave. Livermore. 925-443-3093

Wanted:289 or 302 Ford long block. 925-443-2826

Wanted: Flat file cabinets for engineering drawings. 925-838-1342

Wanted, LP record turntable in good condition. 925-292-7799

Looking for a 20 inch girls bike in good condition. 925-447-9647

Wanted: Someone to do yardwork, mowing, weeding etc. weekly/biweekly. Lenore Ave, Livermore. 925-443-3093

Mantis Tiller. Spring cleaning in the garage or garden shed? Let me take that Mantis tiller off your hands. 925-456-5874

Cologne, Scott McClintock for men, check those medicine cabinets - under the sink, for unused cologne, 925-837-4542

Weight bench 925-443-2114

Daybed, good condition. 925-706-2088

Wanted: Yard/garden chipper/shredder in good condition. 925-447-4173

Video camera with LCD display. Also, multiple CD changer for home stereo. Not DVD. 3-6 CD capacity. Call 209-833-9522

WANTED: Old stereo equip, speakers, vacuum tubes, amps etc. 925-443-2954

Furnature dolly and four each Four to six

Due to space limitations, *Newsline* may withhold ads that have already run. They will still appear on the Web.

Sharing solutions for groundwater cleanup

Ed Folsom, center, of Engineering gave five visitors from the EPA and two from McClelland Air Force Base a tour of the Lab's permanent treatment facilities and the portable treatment units (PTUs). The portable treatment units are of particular interest to EPA and McClelland researchers because of the units' flexibilities in groundwater cleanup, their ease of relocation and their reduced capital and electrical costs. Bob Bainer, Livermore site manager, and Lindee Berg, his deputy, also led some of the discussion and answered questions.

JULIE KORHUMMEL/NEWSLINE

BRIEFLY

Roadwork set for Vasco

Starting Monday, traffic along the stretch of Vasco Road between Patterson Pass Road and Naylor will become a little tighter during lunch hours. Workers from the city of Livermore will repave that section of the road between 9 a.m. and 3 p.m. each day. Portions of lanes in each direction will be closed; expect some delays. No work will be done during morning and evening commutes, but consider the delay when planning lunchtime travel. The project is expected to take about two weeks. For more information, contact Dennis Barrett of the Traffic Safety Committee, 3-5132.

Payment data on the Web

The Finance Department's Accounts Payable team now has a Website for vendors and LLNL employees to inquire about payment data (and scheduled payment dates) related to purchase orders. You can currently query purchase order numbers, release numbers and check numbers. You will not see any vendors' names, due to security reasons. There is a list of Frequently Asked Questions (FAQs), which provides information about the Website and names of individuals to contact at LLNL. In the list of FAQs, there is an AP contact list, resale certificate and electronic funds transfer enrollment form. Access the site at https://apqry.llnl.gov/vipir/ For vendors who do not have Web access, AP has an interactive voice response system at (925) 423-2245.

Coll new UC director of Lab Collaborations

The University of California announced the appointment of the Lab's Cory F. Coll as director for Laboratory Collaborations.

Coll served as deputy director of the Lab's Office of Defense Department programs from 1995 to 2002. His responsibilities included reviewing all Laboratory programs for agencies other than the U.S. Department of Energy.

In his new position at UC, Coll will work closely with faculty on the campuses and with research leaders at the DOE national laboratories at Berkeley, Los Alamos and Livermore to foster mutually beneficial interactions.

Coll earned his bachelor's degree in physics at the Johns Hopkins University and his Ph.D. at the University of Pennsylvania. He was an adjunct assistant professor of physics at UCLA before joining the technical staff of Sandia National Laboratory in Livermore. He joined LLNL in 1981. While at Livermore, he spent three years in Washington, first as special assistant to the deputy under secretary of Defense and then as a program manager in the directed energy office of the Defense Department's Defense Advanced Research Projects Agency, where he initiated an innovative technologies program and managed a program for space object imaging. He returned to LLNL in 1988.

DISPATCH

Continued from page 1

Consolidated Dispatch Center for the consortium as recommended by an independent consultant report based on suitability and cost. Additionally, 10 new dispatchers will be hired to work at the facility.

An Emergency Dispatch Consortium Advisory Board, comprised of the fire chiefs of the Alameda County, the City of Alameda, and the Laboratory, along with the Alameda County Emergency Medical Services Agency Director will oversee the function of the consortium. The agreement will be evaluated every two years to assure that the Center continues to meet the needs of the individual members.

Before the dispatch center can become a reality, the existing Lab Fire Dispatch center must be expanded, radio equipment must be upgraded, and telephone emergency-911 switching facilities must be coordinated. "If all goes according to plan, the new center should be dispatching the four participating agencies by May 13." Bradley said.

The Alameda County Board of Supervisors and the Alameda City Council formally approved the agreement earlier this year.

LABS

Continued from page 1

The Project Management Panel has reviewed progress of those major projects at the laboratories that present particular challenges, usually due to their scientific complexity. "Project management at the Laboratories has greatly improved in recent years and the projects reviewed are generally in good shape," Friend said.

The Environment Safety and Health Panel has been working with the laboratories as they implement Integrated Safety Management. As the laboratories pursue enhanced facilities for biosafety work, the panel has established a smaller subgroup to work the issues inherent in this work, including communication with the community regarding their plans and activities.

The National Security Panel works with Livermore and Los Alamos to ensure the labs are meeting their national security responsibilities in an exemplary manner. While the two labs were designed to be competitors, they must be each other's peer reviewers, and they must also achieve efficiencies through collaboration, Friend explained. "The panel has steadfastly encouraged this closer cooperation, while realizing and respecting the fact that there will not always be scientific agreement."

Through the years, the panel has seen enhanced collaboration on the life extension programs for various weapons systems. These are led by one laboratory, but have critical involvement by the other.

"The panel has seen the results of experiments fielded by both Laboratories at each other's unique facilities," Friend said. "Taken together, these laboratories provide a capability unique in the world, and the panel is pleased to advise on how to help best utilize this remarkable resource."

The Science and Technology Panel covers the gamut of all the research and development work at all three laboratories, including the Council's "onerous task" of grading the huge volumes of S&T work at the laboratories each year.

"I am pleased to report that the panel awarded all three laboratories an overall S&T grade in the low 90s, which is in the outstanding category," Friend said. "But those simple numerical scores cannot describe to you the scientific and technical strength of these laboratories.

"It is the outstanding scientific and technological work at all three laboratories that is their very reason for existence," Friend said, "whether it is applied to national defense work or to most basic scientific questions of our time."

Several of the Regents, including UC President Dick Atkinson, spoke up in praise of Friend's report, the President's Council's effort and the labs' contributions to national goals.

FACILITY

Continued from page 1

floor, larger than a football field — flanked to the south by a four-story office complex that will house 288 scientists and engineers.

Construction of TSF will take four years with completion scheduled for 2006, though the first ground floor computer area is to be completed in time for the June 2004 delivery of the 60 plus teraflop ASCI Option Purple machines. "The project will be constructed in phases to allow early use of the first computer room," said Barbara Atkinson, Computation's representative for TSF.

The TSF computer rooms are specially designed *(see accompanying article)* to house the 100 teraops-class computers the Advanced Simulation and Computing Campaign requires for simulation of nuclear weapons performance under the Stockpile Stewardship Program — the National Nuclear Security Administration (NNSA) program to ensure the safety and reliability of the nation's stockpile.

Based in Minnesota, M.A. Mortenson's Advanced Technology Group (ATG) was chosen in a "best value contract selection process." The company was chosen for its experience and exemplary safety record, according to Neyer.

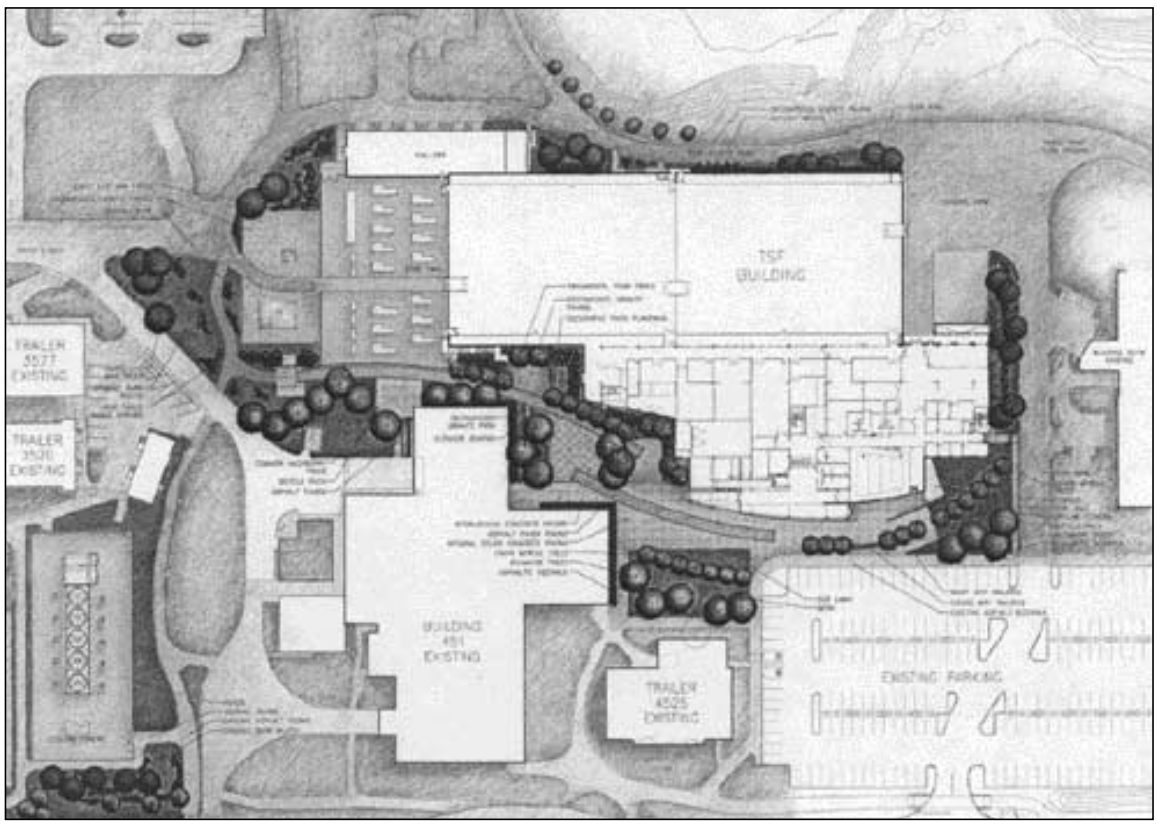
A privately held, family-owned construction company, M.A. Mortenson has been in the general contracting business for 47 years. Mortenson ATG has worked with such clients as Seagate Technology, Hewlett-Packard, IBM, Honeywell International, Agilent Technologies, Cypress Semiconductor and other technology companies.

This is not the first Laboratory project to which Mortenson has contributed. The company set and aligned laser bay vessels and structures in the National Ignition Facility.

"We completed some 12 projects almost identical in requirements to the TSF," said Tab Barth, the senior project manager who will oversee work at the Lab for Mortenson ATG. "Our division has built many clean room, controlled-environment facilities for private industry as well as for university research and development projects."

Mortenson ATG has built more than a billion dollars in electronics and microelectronics facilities around the world and prides itself on delivering projects on time and within budget. Company areas of specialization include mechanical, electrical and process systems and it has developed a reputation as a cost-effective provider of microelectronics facilities.

The effort to build a new facility began with the Accelerated Strategic Computing Initiative six years ago. "When the program started, we realized we didn't have the infrastructure for new machines," Atkinson said. "We were able to accommodate ASCI White by retrofitting and by making such modifications as raising the floor in the main room of Bldg. 451.



The Terascale Simulation Facility will be located northeast of Bldg. 451 and west of Bldg. 551.

Limited parking, access once TSF construction begins

Construction of the Terascale Simulation Facility (TSF) will impact people in surrounding buildings by limiting parking space and temporarily blocking access to the Central Cafeteria along the south bank of the Drainage Retention Basin.

"We realize this is going to be an imposition, but we've done our best to work with immediate area building managers and to minimize disruption," said Roy Neyer, Laboratory TSF project manager.

Signs went up last week in the area of the project to inform employees of the impending construction and its impact on the site.

Fences will go up around the construction site shortly after groundbreaking in early April, followed by infrastructure preparation in mid-April and excavation in mid-May. For the safety of Laboratory employees, access through this area will be limited during the period of construction.

"Safety is our top priority and we ask that motorists avoid the area if possible or that drivers be especially alert and careful around the construction zone," Neyer said.

Terascale facility marks a new era in supercomputing

By Don Johnston
NEWSLINE STAFF WRITER

Construction of the Terascale Simulation Facility (TSF) will usher in a new era in supercomputing at the Laboratory.

The Terascale Simulation Facility, or TSF, will occupy the area west of Bldg. 551 and immediately northeast of Bldg. 451, currently home to the world's fastest computer — the Accelerated Strategic Computing Initiative's "ASCI White."

The first Lab building dedicated to computing to be constructed in 20 years, TSF will provide the space and infrastructure for next-generation supercomputers, starting with delivery of the 60 plus teraops (60 trillion operations per second) ASCI Option Purple in June 2004.

"The TSF will allow the ASCI to meet its future mission goals in stockpile stewardship and will house the future in high-performance scientific computing," said Dave Nowak, the Lab's ASCI program leader.

Simulation is a cornerstone of the National Nuclear Security Administration's Stockpile Stewardship Program to ensure the safety and reliability of the nation's nuclear weapons stockpile without testing in the Nevada desert. Using data from past tests and surrogate experiments, computer scientists will conduct 3-D simulations of nuclear weapon performance.

The new 253,000-square-foot simulation facility consists of two 128-foot-by-192-foot computer clean rooms providing a total of 48,000 square feet of space for computer systems and a four-story office complex with space for 288 scientists, engineers and support staff. The office wing will also house a meeting room, visualization theater, research and development area, videoconferencing center, classroom and storage space on the first floor. The second floor will consist of an operations area, supporting server floor space and 80 offices. The third and fourth floors will house 100 offices each.

TSF's computer rooms will be constructed "clear span" with no obstructing columns and a 48-inch raised floor to allow proper cooling. This "scalable and flexible" design will allow new systems to be installed without disruption of service.

Sufficient electrical power will be brought in to operate future generations of computer systems beyond the 100 teraops machines — 15 megawatts for each computer room and an additional nine megawatts for computer "build out" or expansion.

For every megawatt of power used for the computers, an additional 0.7 megawatts is needed for power to provide the cooling. This computer and cooling load along with the two megawatts needed for the rest of the entire building results in the relatively high power capacity for TSF.

With the average home requiring about 1,000 watts of electricity, one megawatt is enough to power 1,000 houses.

Barbara Atkinson, TSF representative for Computation, said the TSF (Bldg. 453) has been designed to be "multipurpose, scalable, flexible and long-lived" with the "capability to accommodate a wide variety of systems, even beyond the 100 teraflop machines.

"The TSF will provide LLNL with a state-of-art supercomputing facility capable of siting the world's most technologically advanced systems for D&NT through the first half of the 21st century.

"Locating the new supercomputing campus near the Lab's geographic center will be good for all the programs that use TSF," Atkinson said, explaining the centralized facility will make connection runs to other buildings shorter and offer greater physical security.

"With Bldg. 451 adjoining TSF, the computer center and networking staff will be consolidated in one complex," she said. "Consolidation offers a lot of operational advantages.

"This is important for a cutting-edge experimental facility," Atkinson said. "We're developing tools for simulation experiments. The nature of our work is always breaking new ground."

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